Distance Support

Lynn Kohl
Lynn.Kohl@Navy.Mil
717.605.5478

FORCEnet Engineering Conf
June 29, 2005

Approved for public release; distribution is unlimited

What is Distance Support…

"Combination of process and technology that provides the transfer of data, information and knowledge at the right time to the right people at the right place that significantly improves the productivity of the Sailor and Marine and the mission readiness of Naval Forces."

Shipboard, Ship to Shore, Ship to Ship, and Shore to Shore

Fleet Distance Support Guidance

- CFFC/CPFC message set direction for "DS of the future to encompass personnel, training, logistics, maintenance, and quality of service support into a single, shore-based architecture."
  - Identified DS as an essential enabler of our future navy to :
    - "…operate at sea with fewer sailors,
    - improve business efficiency,
    - shape tomorrows infrastructure,
    - help deliver Sea Warrior."
  - Established an Executive Steering Committee (DS ESC) and Technical Advisory Group (DSTAG) to
    - "…develop collaborative governance,
    - capabilities description and
    - articulation plans."

    "021912Z NOV 04 COMFLTFORCOM NORFOLK VA"

Distance Support Guidance

- COMNAVNETWARCOM message for deployment of NKO Afloat
  - "… Delivering capability to the fleet is one of the key tenets of FORCENET and SEA POWER 21. …
  - The way ahead for NKO is to get capability afloat so that NKO is available to our sailors at sea….
  - It is expected that NKO will operate within the Distance Support servers on board ship. …
  - …making use of replication schemes and content based delivery architectures which pay close attention to available bandwidth."

"181408Z APR 03 COMNAVNETWARCOM NORFOLK VA"

Delivering the Sea Warrior Afloat

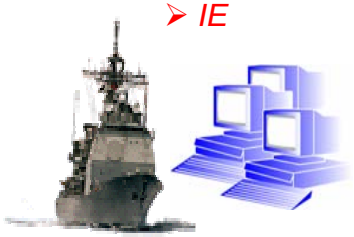
Challenge and The Way Ahead

- Today's bandwidth designed to support tactical requirements
- Rapidly evolving non-tactical capability to the Warfighter afloat.
- Platform resident, content based delivery architectures and replication schemes for disconnected ops which pay close attention to available bandwidth.
- Distance Support v2.0 is the FORCEnet approved application for "Disconnected Ops"

More than how much Bandwidth we have, is how well we manage it!

Products and Services

BG Network



Browser
➢ IE

Browser
➢ IE

Ashore Support Community

Support Requests

Email - Phone - Naval Message

Customer Support

Navy Integrated Call Center/
Global Distance Support Center
(24/7/365)

DS 1.5 (Web)

Internet

DS 2.0
(Platform Resident)

Functional Information

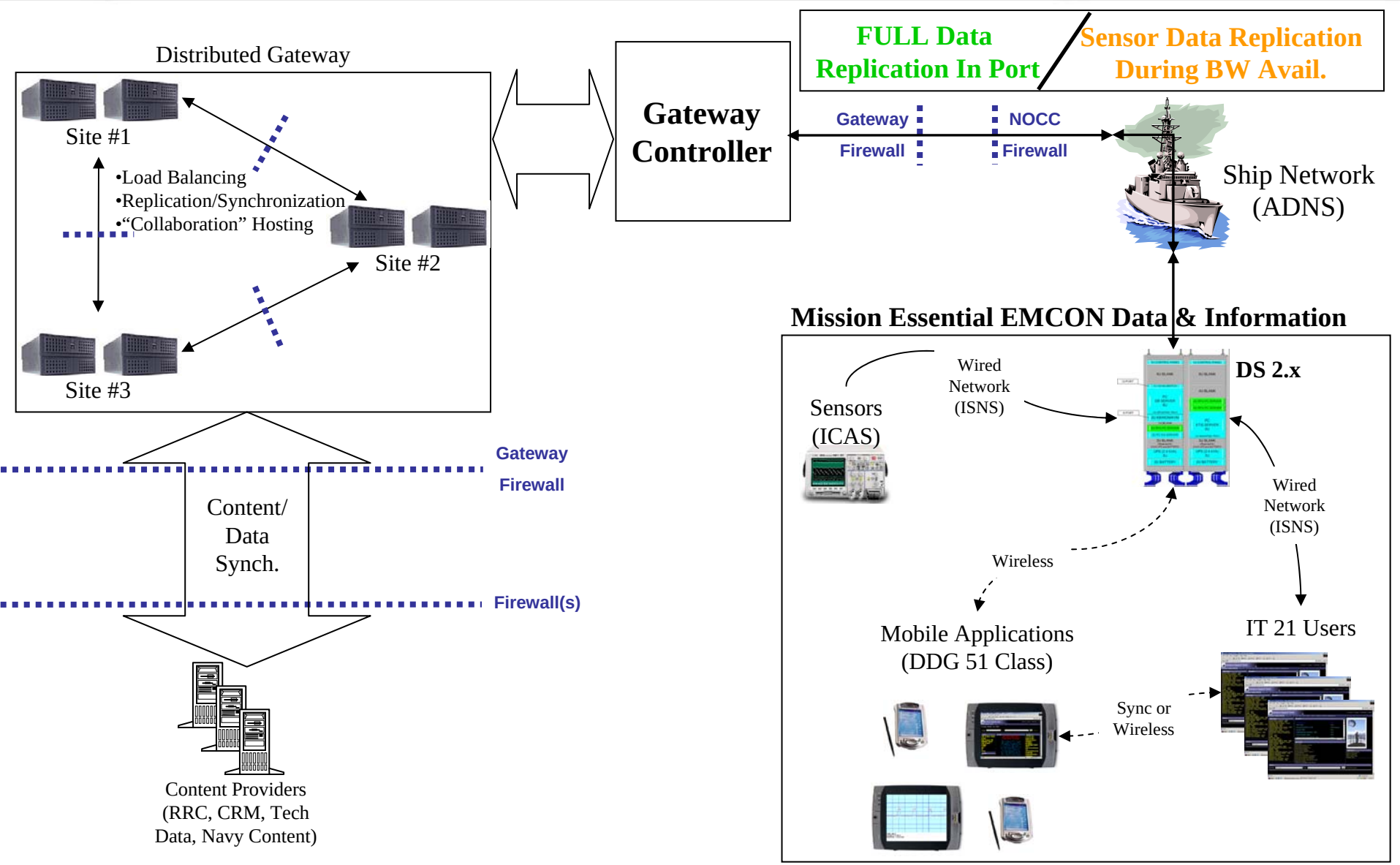
- Maintenance
- Technical
- Logistics
- Ordnance
- Personnel
- Spiritual
- Supply
- IT
- Medical
- Training

Organizations

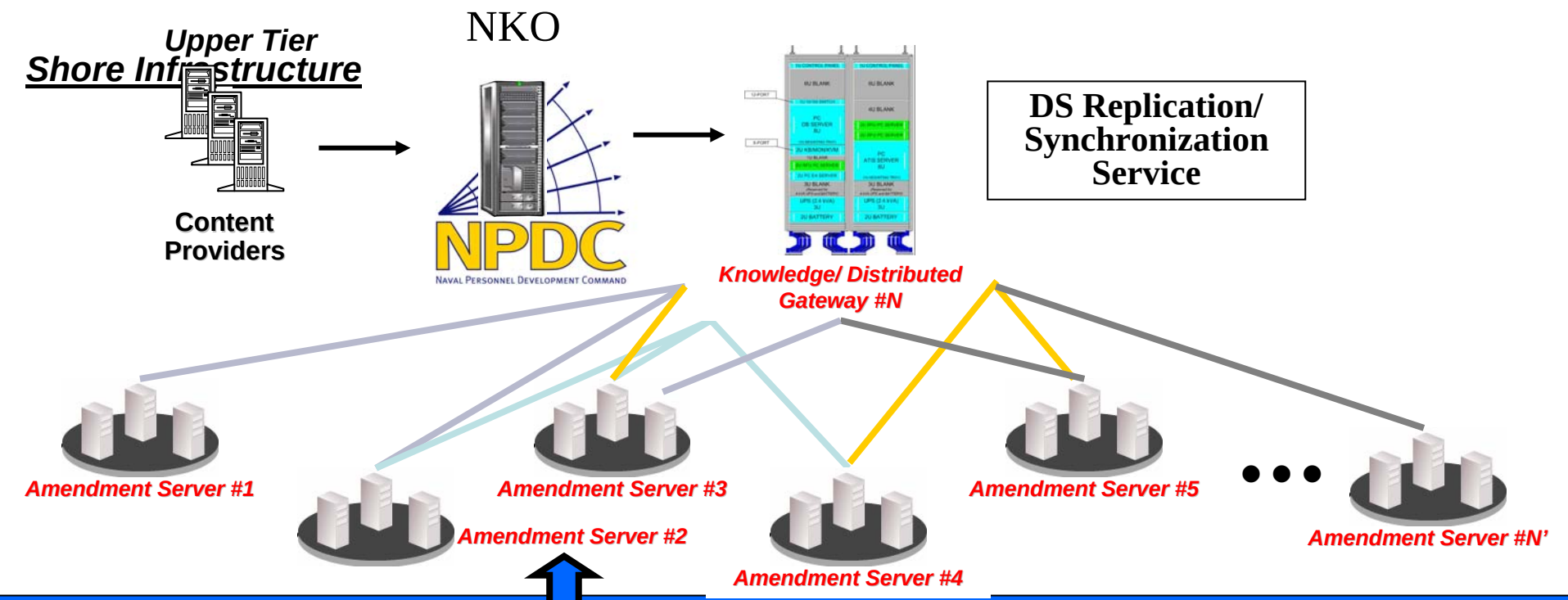
- Chaplain
- SPAWAR
- BuMed
- BuPers
- NAVSUP
- NAVSEA
- NAVAIR
- Warfare Centers
- NPDC

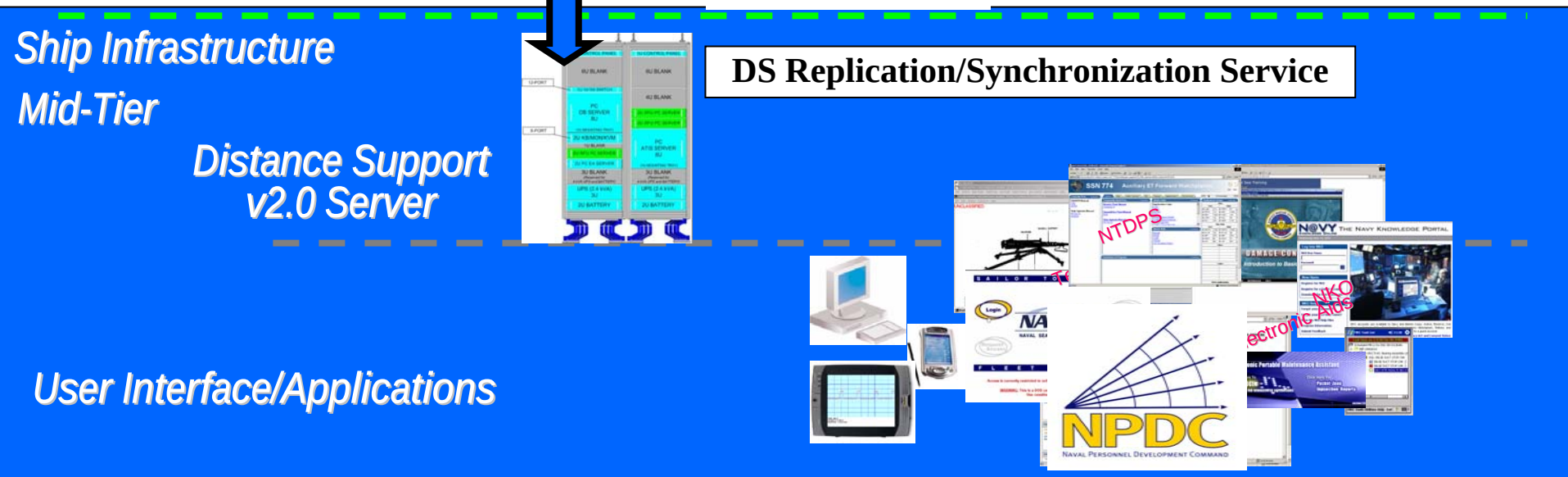
DS 2.0 enables Sea Warrior and much more . . . . . .

Disconnected OPS / Replication Architecture

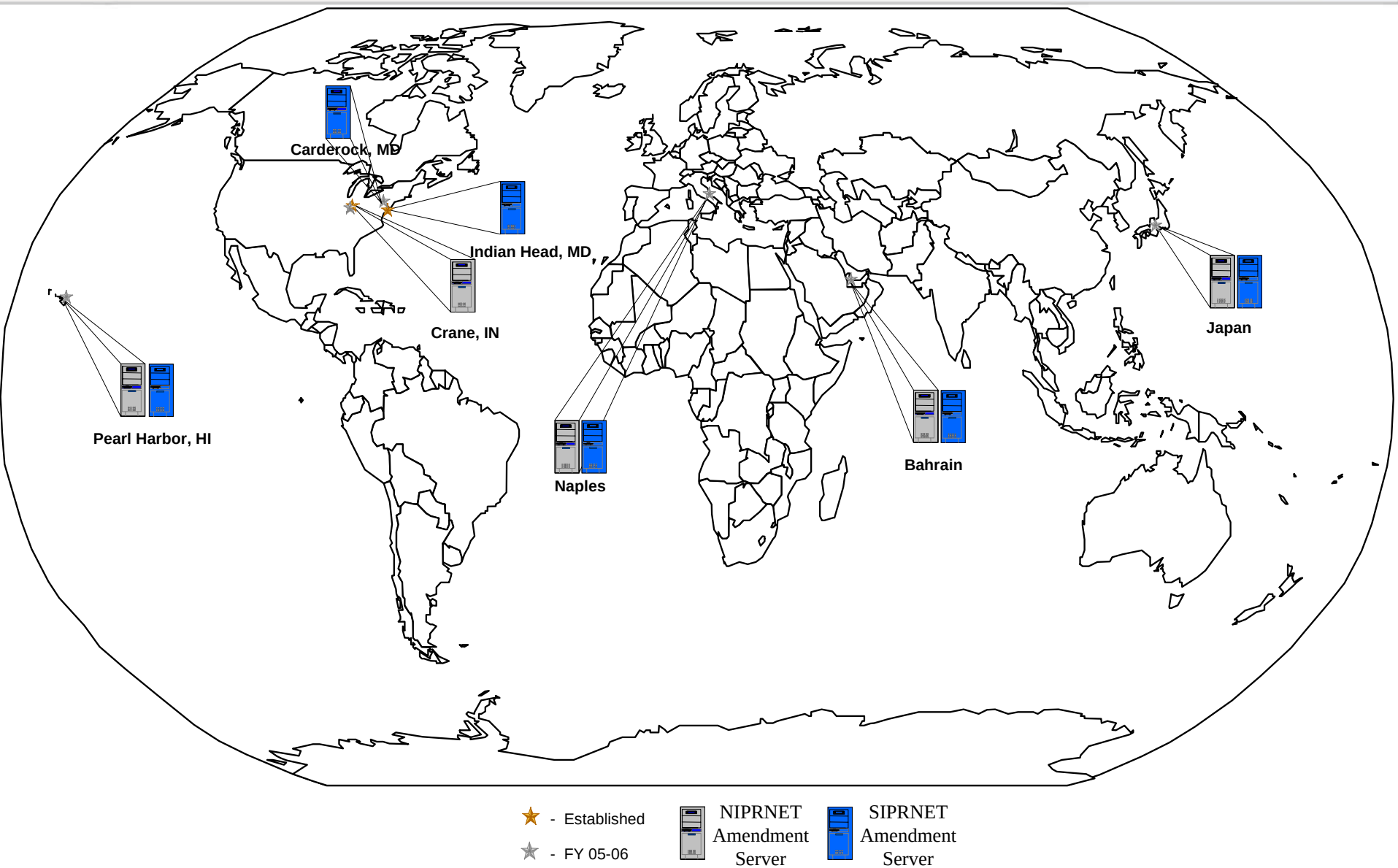


Integrated Tier Structure



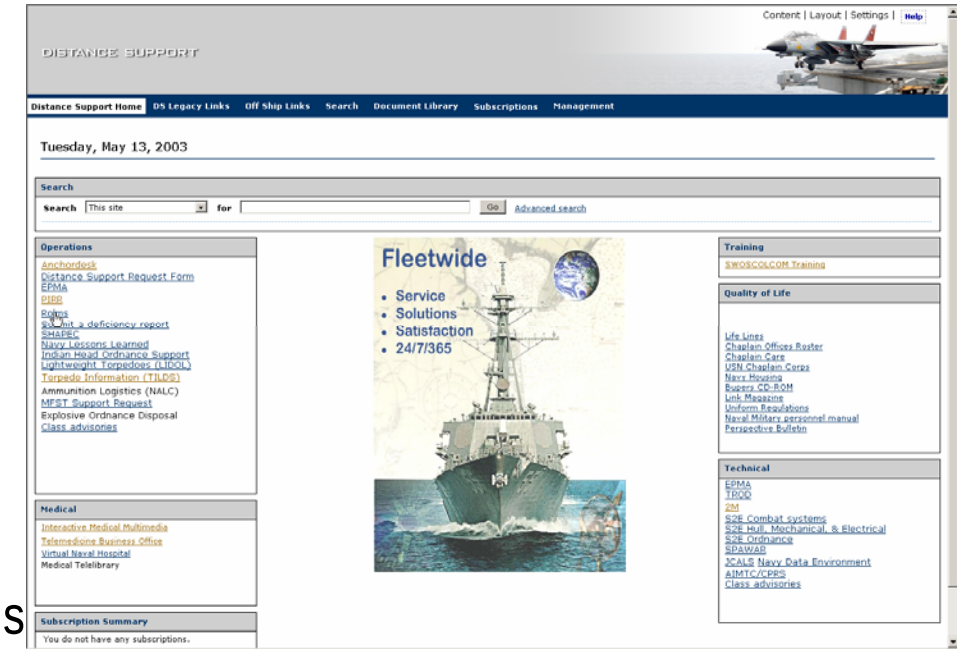


Global Replication Infrastructure



Distance Support 2.0

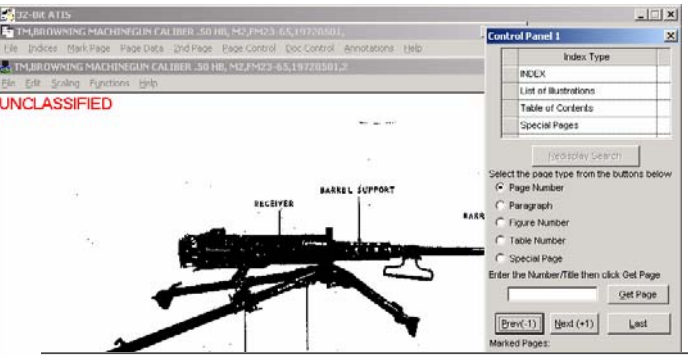
- Shipboard Resident Content
  - Technical
  - Training
  - Quality of Life
- Tools
  - Task Aids
  - Collaboration
  - Data (Maintenance Sensor) Transportation
- Infrastructure
  - Wireless Capable Applications
  - Optimized Data Replication
    - “Epsilon” Compression

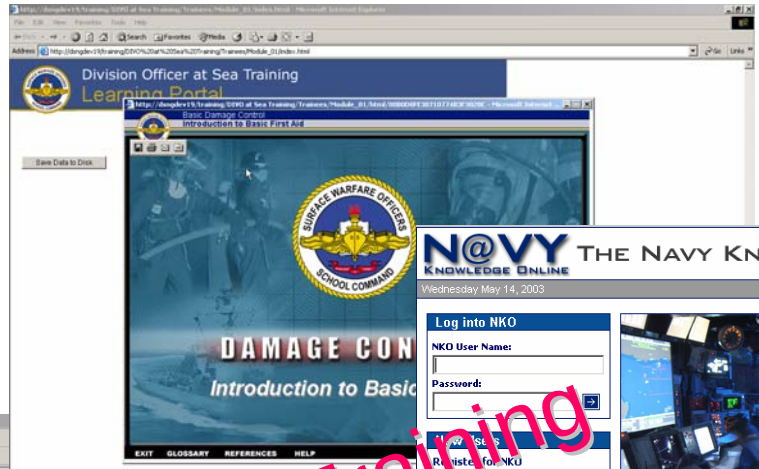


Characteristics

- Ship Initiated and Controlled External Communication
  - Ship to Shore
  - Shore to Ship
- Respects Bandwidth Availability
- Content Replication Does Not Require Live Ship to Shore Connection
- Supports “Distance Support” Business Rules
  - Content Distribution
  - Business Processes

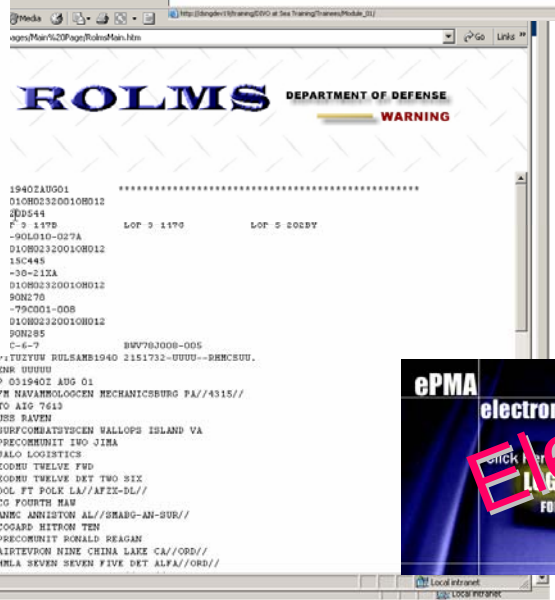
Sample Screenshots

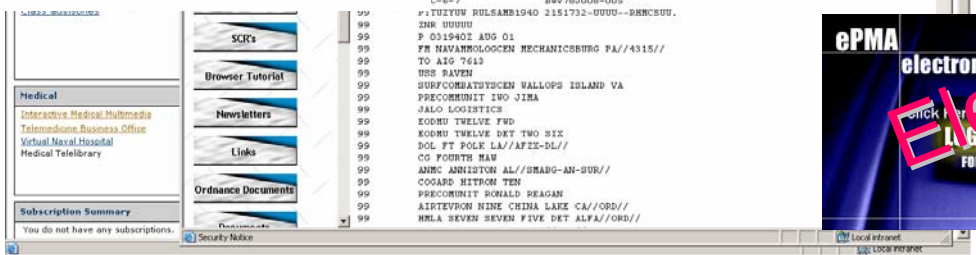


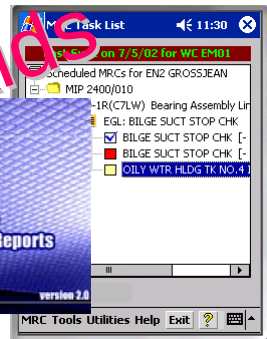


Training

Technical

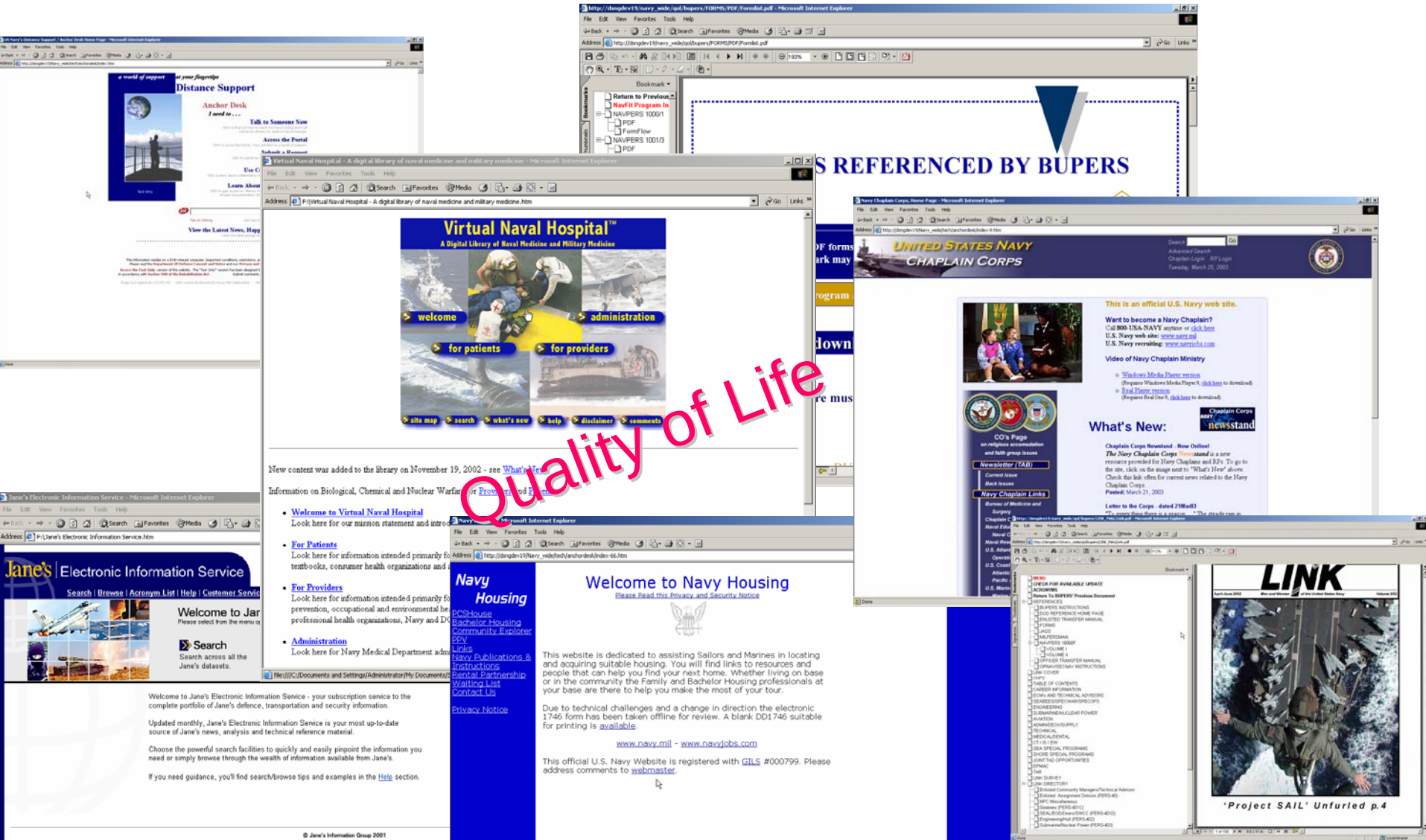




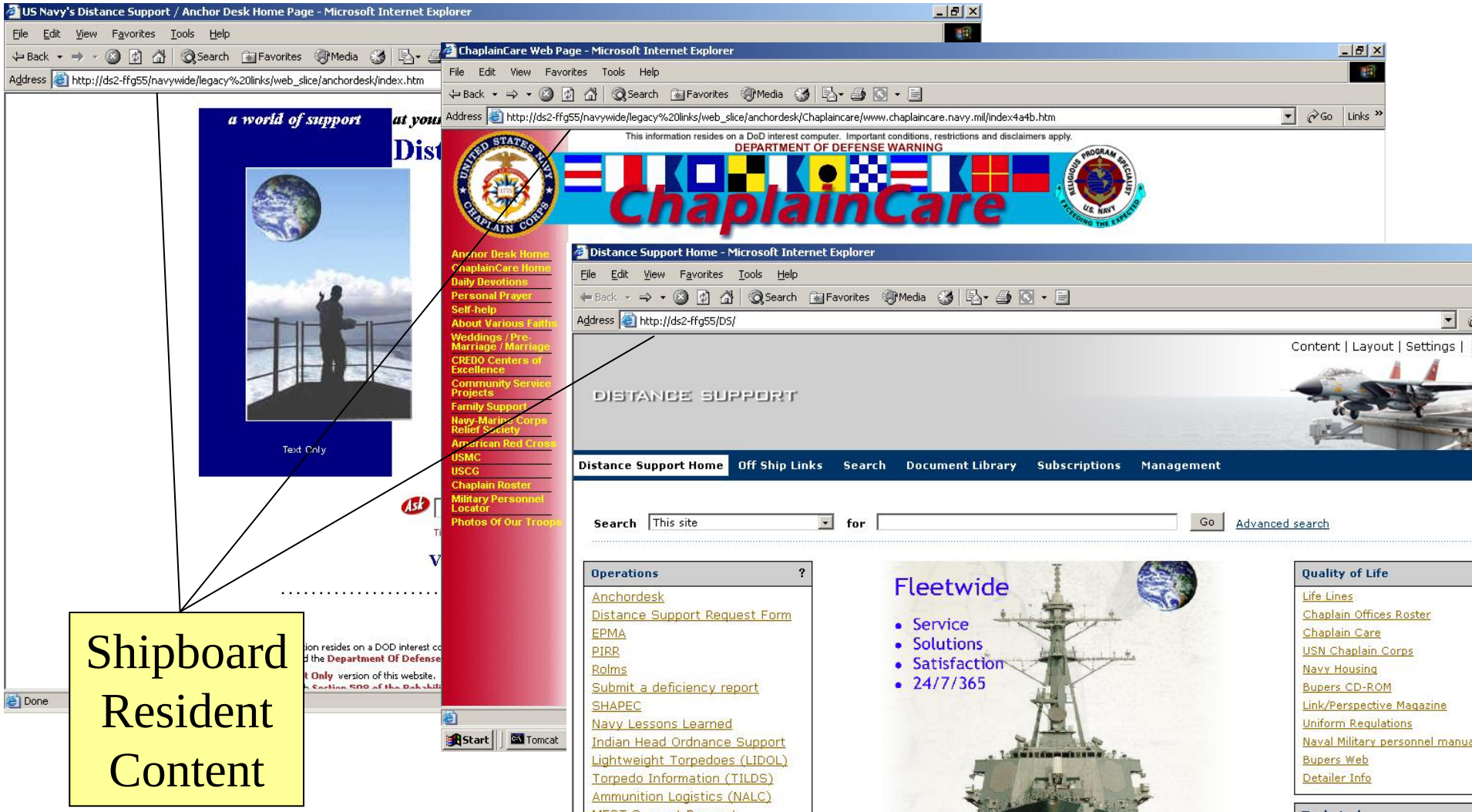


Electronic Aids

Sample Screenshots (cont.)



Shipboard Resident Content



Navy Information/Application Product Suite (NIAPS)

Technical Concept

Deckplate Sailor

Shipboard Infrastructure

IT-21 | NTCSS | NTDPS | ADNS | Wireless | …

NIAPS

ATIS | SKED | SOMS | OMMS-NG

DS 1.x | DS 2.0 Application | TDKM | ICAS

RTASS | NKO

ePMA | TLMS | …

Navy Infrastructure

SAT-COM | NOCC | FORCEnet | NMCI | GIG | …

Shore Infrastructure

NICC | Collaboration Tools | Content Providers | …

NIAPS Applications

- Advanced Technical Information Support (ATIS)
- Distance Support (DS)
- Navy Knowledge Online (NKO)
- Shift Operations Management System (SOMS)
- Preventative Maintenance Schedule (PMS) Scheduler (SKED)
- Technical Library Management System (TLMS)
- Portable Maintenance Assistance (Web-Enabled) (ePMA)
- Technical Data Knowledge Management (TDKM)
- Submarine Non-Tactical Application Delivery Interface System (SNADIS)
- Total Ship Information Management System (TSIMS)
- Operational Maintenance Management System-Next Generation Application Program Interface (OMMS-NG API)

Milestones

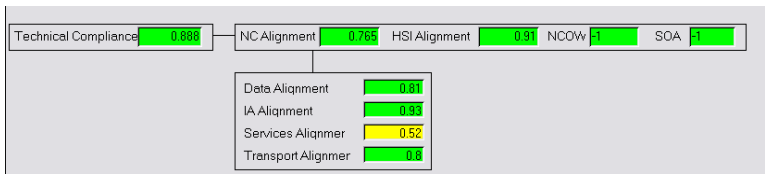
- Certifications/Approvals:
  - SPAWAR NCR/SSIL Certified: SSIL-03-0052
  - NETWARCOM ATO: 29 Nov 04 (3 Year)
  - FFC N6 Approval: Naval Message 271218Z Feb 04
  - FORCEnet Implementation:

SPAWAR

Technical Mtg Results

FORCEnet

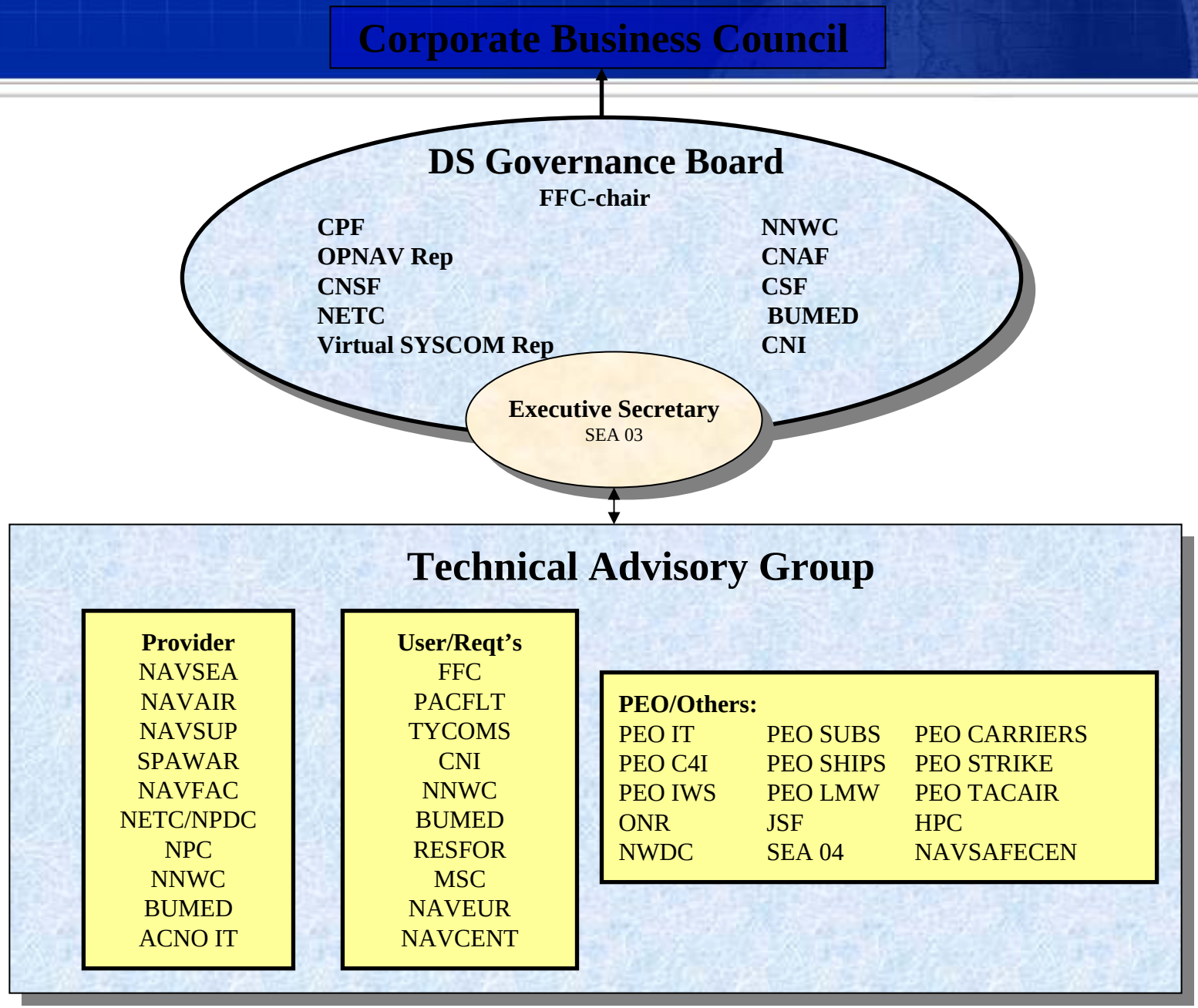
- **Initial FIBL Results DS2.0 (as-is) showed good alignment**



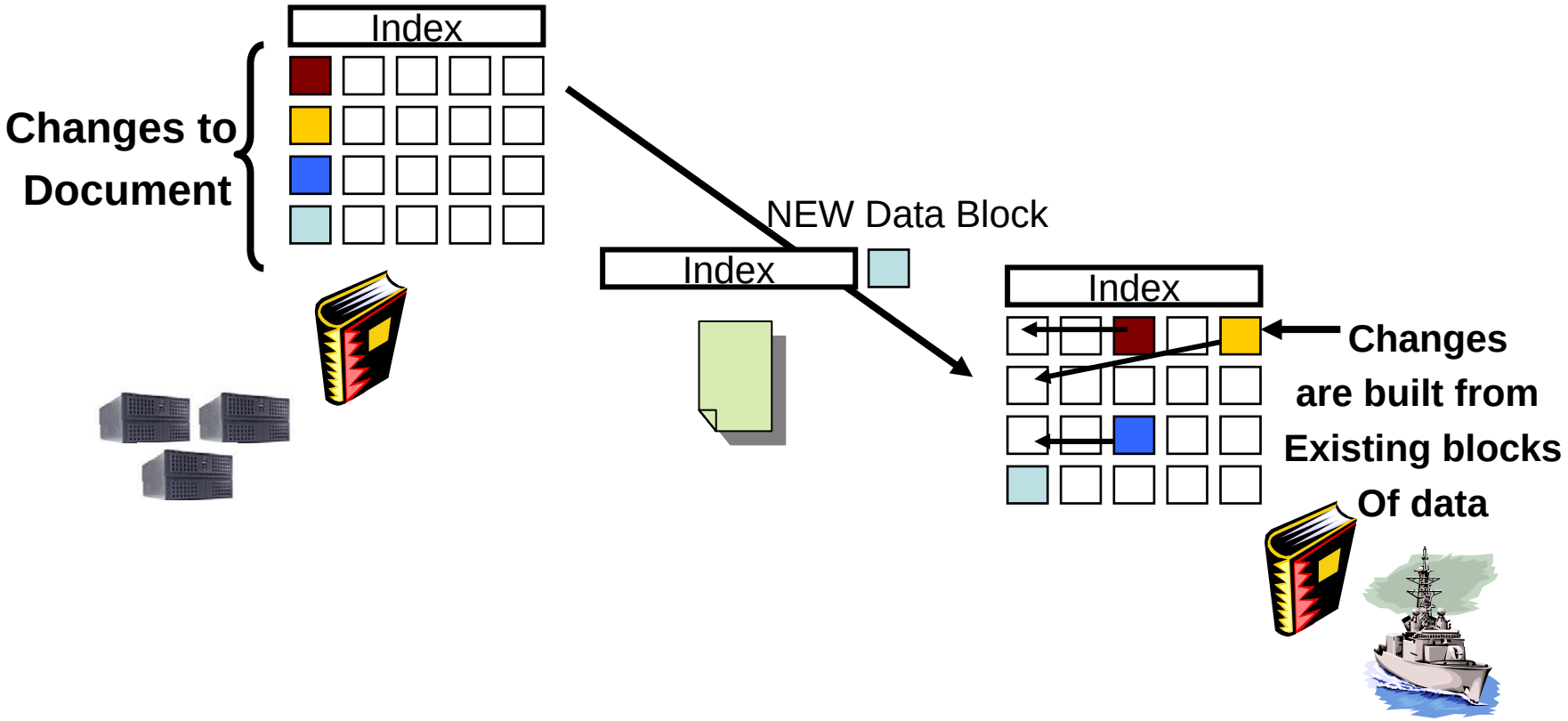
- Questions ???

Backup

DS Governance

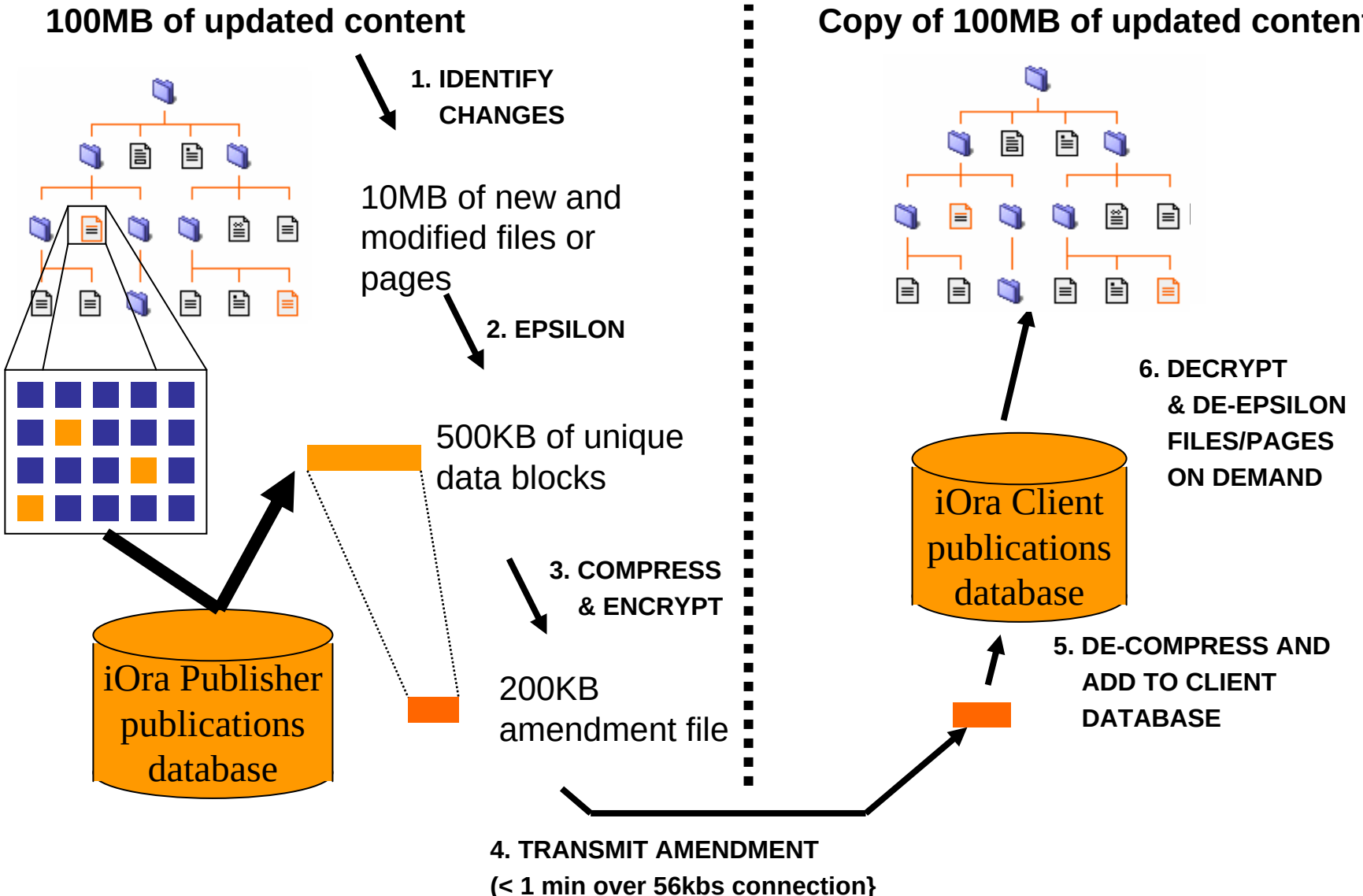


iOra Epsilon
Update/Synchronization



Document Changes are built from an Index, NEW blocks of data and Existing blocks of Data!

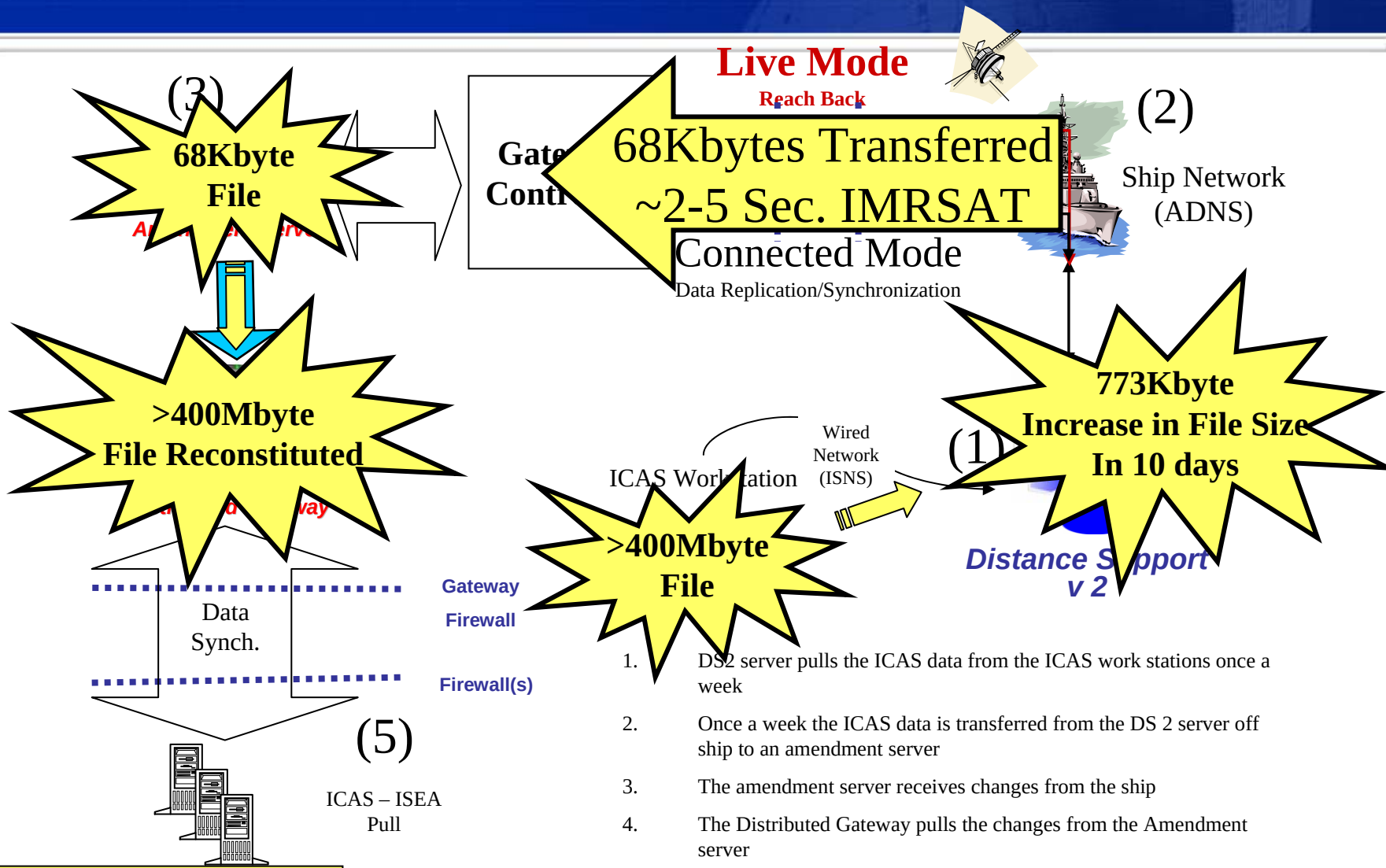
Example of how Epsilon Works



Distance Support version 2
ICAS

- DS 2 is the Conduit for Automatically Transporting ICAS Sensor Data from Ship to Shore
  - DS 2 Compression and Replication Results in ~70kb file per week
  - Requires ICAS Workstation Connected to ISNS LAN
    - DDG Configuration
    - Upgrade Required on non-DDG Ships

ICAS Data Flow



1. DS2 server pulls the ICAS data from the ICAS work stations once a week
2. Once a week the ICAS data is transferred from the DS 2 server off ship to an amendment server
3. The amendment server receives changes from the ship
4. The Distributed Gateway pulls the changes from the Amendment server
5. Data pulled by the ISEA

Real Ship Data Transfer
30 Dec - 8 Jan. 04

Distance Support 2
Content Size

- ATIS Tech Manuals 250 Gb
- Training 100 Gb
  - NKO Afloat, NETg, etc.
- Navy Wide Content 75 Gb
  - Anchordesk legacy links, medical, QOL, operations, etc.
- SKED 15 GB